

# Impact of Corporate Social Performance on Financial Performance: Case of Firms Listed on the Stock Exchange of Casablanca

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## Abstract

This paper examines empirically the impact of corporate social performance (CSP) on financial performance (FP). The study relates to a panel of 32 firms listed on the Stock Exchange of Casablanca during the period of study from 2011 to 2017. The empirical findings obtained, by linear regressions on panel data, clearly find the lack of impact of the corporate social performance on the financial performance measured by the Return on Investment (ROI), Return on Equity (ROE) and Earnings Per Share (EPS) ratios. The influence of corporate social performance on financial performance is statistically insignificant. The financial performance of firms classified or not socially efficient are almost identical. Finally, the results obtained clearly show the absence of this causal link between corporate social performance (CSP) on financial performance (FP), which confirms the research hypothesis. Finally, since the relationship between these two performances could be non-linear, we can deepen this article using econometric methods that can analyze the non-linear effect such as quantile regression and the regime-change model.

**Keywords:** company social performance, financial performance, top performers, panel data

## 1. Introduction

Faced with the resurgence of different financial scandals, the question of ethics in finance has become a major issue for the various economic players. The articulation between ethics and finance continues to be widely debated by researchers. The considering of an ethical reference in finance is declined in solidarity finance, CSR, SRI, Islamic finance, etc.

But the question that arises can we reconcile ethics and performance or in other words does ethical commitment penalize performance (Saadaoui, 2008). The answer to this question has been the subject of a multitude of scientific contributions comparing the performance of:

- Ethical and conventional funds, such as the work carried out by Kreander et al. (2005), Leite and Cortez (2018) and Kiyamaz (2019).
- Ethical and conventional indices, like the research conducted by Mollet and Ziegler (2014), Blankenberg and Gottschalk (2018) and Jawadi et al. (2019).
- And socially responsible (SR) and non-SR companies, such as the scientific contributions of Lee et al. (2009), Wang et al. (2016), and Chetty et al. (2015).

This article is part of this third approach by trying to study the impact of corporate social performance (CSP) on financial performance (FP) in the Moroccan context.

Given the growing interest of researchers and economic players in this theme, and given the scarcity of work devoted, in Morocco, to examining this impact, this article aims to respond to the following problem:

To what extent does the CSP influence the FP of Moroccan companies listed on the Stock Exchange of Casablanca (CSE)?

Unlike the work carried out by El Malki (2010), Mouatassim and Ibenrissoul (2016) and El Yaagoubi (2019), dealing only with the influence of CSR on FP, the objective of this article is to analyze the link between CSP and FP on a panel of 32 companies listed on the CSE, covering the period from 2011 to 2017, taking into account their social rating assigned by Vigeo.

This problem is treated according to a positivist epistemological positioning based on a quantitative study. The data, extracted from financial statements published by MCMA (Moroccan Capital Market Authority), were subjected to statistical processing by Eviews.

The empirical methodology used is the econometrics of panel data by performing linear regressions, using Least Square Methods, Fixed Effects Methods and Random Effects Methods.

To provide elements of response to our problem, we present in a second section the theoretical foundations of our problem. In a third section, we present the results of the empirical analysis, highlighting the conceptual model of the research, the variables used, and the results obtained. Finally, section 4 concludes.

## 2. Literature Review

In order to study this link, we first define the concept of CSP and then present the different measures used to assess it.

### 2.1 Company Social Performance

When we try to define CSP, this concept is not stabilized. It is a word "suitcase" which has received and still receives many meanings according to the authors.

For Allouche and Laroche (2013), methodological or even epistemological problems or vagueness surround the attempt to operationalize the CSP and reflect a feeling of heavy conceptual fragility. Although CSP remains a concept with fuzzy and evolving borders. Three conceptual models are often cited to apprehend this notion.

The first presents the CSP, as a three-dimensional articulation between different categories of social responsibilities (economic, legal, ethical and discretionary), specific problems linked to these responsibilities (environment, discrimination, product safety, work safety, shareholding) and philosophies of response to these problems: reactive, defensive, accommodative or proactive (Carroll, 1979).

The second model defines it as a configuration of the principles of social responsibility, the processes of social sensitivity and observable programs, policies and results relating to corporate social relations (Wood, 1991).

For the latter, CSP is the ability of the company to manage and satisfy its stakeholders: employees, owners / shareholders, consumers, suppliers, competitors and public authorities (Clarkson, 1995).

These models distinguish the dimensions of CSP on which a company must rely, the management principles it must deploy and ultimately the results it obtains in terms of CSP. However, they do not offer any measure to measure this performance.

### 2.2 CSP Assessment Measures

There is currently no universal definition or consensus on the measurement of CSP. Different measures are used to assess it such as pollution indices, reputation indices, the amount of charitable donations, the environmental score and measures by rating bodies, etc. (Tebini, 2013).

Igalens and Gond (2005) present five types of approaches to measure CSP (table 1).

Table 1. Characteristics and relevance of the main CSP measures

Type of measurement	Relevance to the concept of CSP	Features / Problems	Production mode
Content of annual reports	A more symbolic than substantive measure (discourse) which does not refer to the different dimensions of the construct	Easy-to-handle subjective measurement	By the company
Pollution indicators	Measure only one of the dimensions of the construct	Measure - target that does not apply to all	By an organization external to the firm

	(environment)	businesses	
Questionnaire surveys	Depends on the proposed measures; possibility of a strong fit to the concept but these measures primarily reflect the perceptions of the actors	Perceptual measurement which can give rise to possibilities of manipulation linked to the mode of administration	By the researcher who collects them directly from the company by questionnaire
Reputation indicators	Confusion with the notion of reputation, ambiguity	Perceptual measurement	By an organization external to the firm
Data produced by measurement organizations	Multidimensional measurement, the degree of adequacy to the theoretical models depends on the working mode and the reference frames mobilized by these	Depends on how agencies work	By an organization external to the firm

Source: Igalens and Gond (2005)

We find that the five methods use different measures, the first four use secondary data, while the last is based on primary data. These methods can be influenced by the methodology of their production and the origin of the data used. This could pose a problem of subjectivity and reliability of the information disseminated.

After having presented the concept and the evaluation measures of CSP, we deal in the next section with the main FP indicators used.

### 2.3 FP Indicators

To analyze this link, several FP indicators are used to assess it. Based on a meta-analysis of 122 studies relating to this relationship, Margolis and Walsh (2003) identify 70 measures grouped into two categories:

- Accounting measures such as: ROA, ROE, EPS, etc.
- Market measures: Q of Tobin, MVA, MBV, etc.

However, these indicators, used separately or concomitantly, are subject to numerous biases. The accounting measures give a historical idea of the evaluation of the profitability of the company and depend on the accounting methods put in place and are easily manipulated. While market measures inevitably incorporate market characteristics and risks that are not specific to a company (Bnoui, 2011).

### 2.4 Link between CSP and FP

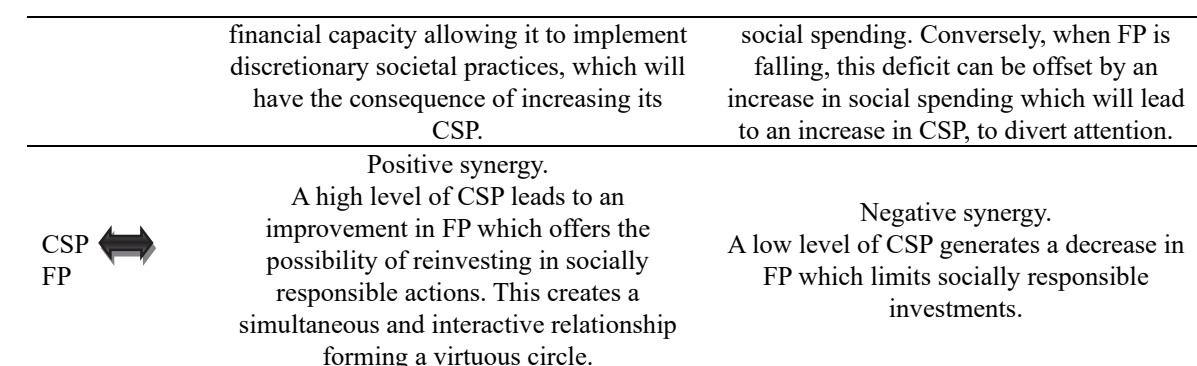
The relationship between CSP and FP has been the subject of an abundant literature since the 1970s, according to:

- The nature of this relationship: linear, non-linear, direct, and indirect.
- The meaning of this relationship: is that CSP which influences FP or the opposite or is it a reciprocal relationship.
- The sign of this relationship: positive, negative, or neutral.

Preston and O'Bannon (1979), illustrated this relation by the table 2.

Table 2. Typology of the relationship between CSP and FP

Causality	Positive	Negative
CSP → FP	Social impact hypothesis. Satisfying the needs of the various stakeholders of the company will serve to spread its good reputation and positively impact its FP.	Arbitration assumption. The implementation of socially responsible practices generates financial costs which could be the source of a competitive disadvantage and a deterioration in financial profitability over time.
FP → CSP	Assumption of available funds. A high level of financial profitability allows the company to increase its	Opportunism hypothesis. When FP is important, managers will tend to increase their own profit by reducing



Source: Preston and O'Bannon (1997)

By subscribing to this typology, a multitude of scientific contributions have tried to establish this link. For some authors, such as Manrique and Martí-Ballester (2017), Choi et al. (2018) and Laskar (2018), CSP has a positive impact on FP. On the other hand, for others, this impact is negative, like Brammer et al. (2006), Masoud and Halaseh (2017), Han et al. (2016) and Ngoc (2018).

The lack of consensus on the nature of this relationship has opened the way to another stream of work, which highlights a lack of link between these two performances. For vision supporters such as Moses et al. (2014), Strouhal et al. (2015) and Maqbool and Bakr (2019), this influence would be difficult to establish, given the multiplicity of variables involved.

This divergence of results leads us to formulate the following central research hypothesis:

*H: The social performance of the company has no impact on financial performance.*

This hypothesis is tested according to the research model presented in the following section.

### 3. Empirical Analysis

We begin by presenting the research model and the results of the empirical analysis.

#### 3.1 Conceptual Model of Research

To understand this link, we have chosen a sample made up of a cylinder panel of 32 companies listed on the SEC over the period from 2011 to 2017. These companies which are the subject of our study are selected based on their social performance depending on the rating awarded by Vigeo.

The dependent variable of our model is FP illustrated by 3 ratios commonly used in the literature:

- Economic profitability or ROI (return on investment) = Net income / Total assets.
- Financial profitability or ROE (return on Equity) = Net income / Equity.
- And Earnings per share = Net earnings / Number of shares.

The various financial information required to calculate these ratios is extracted from the financial statements published on the SEC and MCMA websites.

The explanatory variable (CSP) is a dichotomous or binary variable, depending on whether the companies are classified as Top Performers (Top P) by Vigeo. The companies classified Top P obtain the best social rating, those achieving a bad score are said not Top P.

This rating is assigned according to a benchmark of 38 criteria and more than 330 indicators in the following six areas: respect for human rights, enhancement of human capital, environmental protection, business ethics, the efficiency and independence of governance and their commitment to the development of their areas of activity.

Based on the literature review, we use as moderating variables, the size of the company expressed for the logarithm of turnover and two capital structure ratios, the first relating debts to LT to total liabilities and the second equity to the same denominator. The research model looks like this in the figure 1:

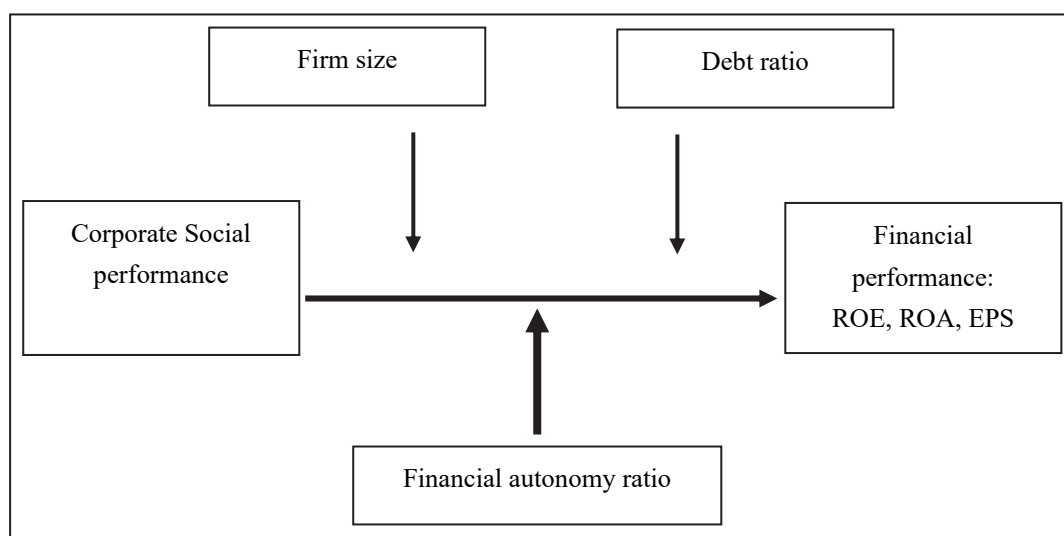


Figure 1. Conceptual model of research

Source: Own Elaboration

The estimated model is presented as follow:

$$FP = \alpha + \beta_1 CSP + \beta_i X + \epsilon \quad (1)$$

Where, FP is a financial performance indicator selected each time,  $\alpha$  is a constant, CSP is an explanatory variable indicating the social performance of the company, X is a matrix of control variables likely to explain the company's financial performance and  $\epsilon$  in an error terms.

The table 3 shows these different variables:

Table 3. Variables of the conceptual research model

Dependent variable	FP	Earnings per share: EPS
		ROE
		ROI
Explicative variable	CSP	1 if the firm is Top P 0 if no
Control variables	Financial autonomy ratio	Equity / Total Liabilities
	Ratio of debt	Long-term debts / total liabilities
	Size	Log (Turnover)

Source: Own Elaboration

### 3.2 Descriptive Statistics

To verify this impact, we are carrying out a comparative analysis of the three sample ratios according to the agency's reporting schedule.

#### 3.2.1 Relationship between CSP and ROE

The ROE calculation for socially classified or non-performing companies gives us the results presented in the table 4.

Table 4. ROE as a function of CSP (%)

	2011		2013		2015		2017	
	Top P*	NTP**	Top P	NTP	Top P	NTP	Top P	NTP
Mean	12.81	7.25	12.80	7.12	10.79	4.38	7.55	5.55
Median	12.47	4.23	9.30	6.03	7.37	6.25	9.63	7.46

Max	23.47	31.83	27.10	36.83	30.48	23.51	14.17	17.61
Min	1.72	-15.01	1.85	-1.71	1.49	-17.06	0.33	-14.26
Std. Div	9.20	9.48	10.65	7.58	9.91	8.11	4.75	6.94

Note: \* Top P: top performers \*\* NTP: Non-top performers

Source: Own Elaboration

The average ROE of Top P companies is higher than that of NTP companies. Similarly, we find:

- A downward trend in the average between 2011 and 2017 for both Top P companies and NTPs;
- Strong heterogeneity of results for ROE (Standard deviation represents almost 100% of the average, over the four years).

### 3.2.2 Relationship between CSP and ROI

The calculation of the ROI of socially classified or non-performing companies gives us the results presented in the table 5.

Table 5. ROI as a function of CSP (%)

	2011		2013		2015		2017	
	Top P*	NTP**	Top P	NTP	Top P	NTP	Top P	NTP
Mean	32.16	12.04	25.66	13.47	23.51	15.88	17.58	-7.11
Median	33.39	10.80	21.49	13.30	15.66	11.39	17.17	10.19
Max	56.09	49.73	51.87	44.82	55.46	229.17	37.10	52.20
Min	6.05	-36.11	6.77	-7.02	10.04	-89.23	0.78	-410.53
Std. Div	19.20	15.62	15.66	11.30	17.50	49.10	10.28	91.02

Note: \* Top P: top performers \*\* NTP: Non-top performers

Source: Own Elaboration

The return on equity of Top P companies is higher than that of NTP. However, we note that the dispersion of the observations is quite large and that the results are heterogeneous.

### 3.2.3 Relationship between CSP and EPS

The calculation of EPS of socially classified or socially ineffective companies gives us the results presented in the table 6.

Table 6. EPS as a function of CSP (%)

	2011		2013		2015		2017	
	Top P*	NTP**	Top P	NTP	Top P	NTP	Top P	NTP
Mean	33.74	42.46	67.15	35.73	55.95	20.08	41.01	35.29
Median	22.27	10.55	17.49	15.84	34.65	7.05	20.39	13.61
Max	87.41	243.90	309.67	219.96	142.33	116.38	145.27	158.08
Min	9.26	-66.92	6.03	-7.58	6.75	-87.41	6.21	-83.71
Std. Div	29.47	73.57	110.02	50.28	49.83	48.74	46.20	56.27

Note: \* Top P: top performers \*\* NTP: Non-top performers

Source: Own Elaboration

The market profitability expressed in EPS of Top P companies is higher than that of NTP. However, to better compare the means of two samples (Top P and NTP) for the three ratios, we used the ANOVA analysis of variance based on the Fisher test, below with the hypothesis H0: the two means are equal.

Table 7. Fisher test of FP ratios

Ratios	df	Value	Probability
ROE	(1, 127)	6.926928	0.0095
ROI	(1, 127)	2.417639	0.1225
EPS	(1, 127)	1.667605	0.1989

Source: Own Elaboration

For ROE, the probability associated with the F statistic is below the critical threshold of 5%. We reject H0 and accept the alternative hypothesis which states that the two means are statistically different, which confirms our first observation.

For ROI and EPS, the probabilities associated with the F statistic are higher than the critical threshold of 5%. We reject H0 from the statistical equality of the two means, which invalidates our first observations relating to these two ratios.

These different results allow us to see that the average ROE of Top P companies is higher than that of companies with NTP. However, for the other two indicators (ROI and EPS), Top P companies achieve the same levels of profitability as NTP companies.

However, this simple comparison of the means does not allow us to qualify this link, hence the interest in carrying out econometric models to confirm or confirm these observations.

### 3.3 Stationarity TEST

We also conduct a test of the unit root panel data. Thus, we used the test Levin Lin Chu. The null hypothesis of this test is H0: all series are non-stationary and the alternative hypothesis is H1: all series are stationary. The acceptance or rejection of the null hypothesis is based on the value of the p-value.

This value is compared to a 10% threshold. If the value of the p-value is less than 10%, then we reject H0 and the value of the p-value is greater than 10%, while we accept H0. Table 8 summarizes the results of study of the stationary of the variables.

In our case, we notice that all the variables used herein p-value of less than 10%. In this case, one rejects H0 and thereafter all these variables are stationary.

Table 8. Test the unit root

Variables	Statistic	p-value
ROE	-3.5395	0.0002
ROI	-2.8474	0.0022
EPS	-1.7158	0.0431
TOP_PERF	-4.3599	0.0000
Size	-5.0001	0.0000
Financial autonomy ratio	-4.4979	0.0000
Debt ratio	-6.3591	0.0000

Note: In this test the p-value is compared to 10%. If p-value < 10% therefore we reject H0 and p-value > 10% then we accept H0. With H0: all series are non-stationary.

Source: Own Elaboration

### 3.4 Results

To test the research hypothesis originally formulated, we used three main regression models of panel data. For each model, three estimation methods are used:

- Least Square Method: assuming that the parameters of the model to be estimated are homogeneous for all the companies in the sample.
- Fixed Effects Method: under the assumption of the impact of the explanatory variables while the constant is specific for each company. and
- Methods with Random Effects: under the assumption that the impact of the explanatory variables as well as the constant is not deterministic.

## 3.4.1 Regression Analysis

The results of the econometric models relating to each financial performance ratio, are presented in the table 9.

Table 9. Results of the regression models

	Variables	LSM	FEM	REM
ROE	TOP_PERF	0.566686* (0.308856)	-0.368941 (0.340560)	-0.086673 (0.291920)
	Size	1.826123*** (0.371499)	4.936237*** (1.356057)	2.278659*** (0.534720)
	Financial autonomy ratio	0.241870*** (0.030515)	0.158211** (0.072454)	0.220354*** (0.041049)
	Debt ratio	-0.068600 (0.045421)	-0.207488** (0.081600)	-0.126630** (0.054665)
	Constant	-42.61009*** (8.523451)	-101.7753*** (29.31305)	-49.87003*** (12.14478)
	R <sup>2</sup>	0.466138	0.818093	0.332453
	R <sup>2</sup> -adjusted	0.448917	0.746912	0.310919
	F-statistic	27.06748	11.49315	15.43865
	Prob(F-statistic)	0.000000	0.000000	0.000000
	N	129	129	129
ROI	TOP_PERF	1.139747 (2.180974)	0.778304 (3.591571)	1.139747 (2.207362)
	Size	6.962954*** (2.623329)	55.72876*** (14.30108)	6.962954*** (2.655069)
	Financial autonomy ratio	0.27153 (0.215482)	-0.992730 (0.764101)	0.271537 (0.218089)
	Debt ratio	-0.472521 (0.320737)	-2.523056*** (0.860560)	-0.472521 (0.324617)
	Constant	-142.4360** (60.18806)	-1084.359*** (309.1376)	-142.4360** (60.91627)
	R <sup>2</sup>	0.100354	0.316272	0.100354
	R <sup>2</sup> -adjusted	0.071333	0.048726	0.071333
	F-statistic	3.458003	1.182121	3.458003
	Prob(F-statistic)	0.010259	0.258833	0.010259
	N	129	129	129
EPS	TOP_PERF	2.164516 (2.590492)	-4.127447* (2.306309)	-2.840234 (2.109981)
	Size	13.14090*** (3.115907)	37.94549*** (9.183361)	19.38229*** (4.738596)
	Financial autonomy ratio	1.356815*** (0.255943)	1.055158** (0.490663)	1.242110*** (0.341959)
	Debt ratio	0.220070 (0.380961)	-0.244047 (0.552604)	-0.080142 (0.432724)
	Constant	-309.5666*** (71.48947)	-807.5681*** (198.5111)	-428.2092*** (0.432724)
	R <sup>2</sup>	0.253858	0.834257	0.188958
	R <sup>2</sup> -adjusted	0.229789	0.769400	0.162795
	F-statistic	10.54703	12.86319	7.222428
	Prob(F-statistic)	0.000000	0.000000	0.000029
	N	129	129	129

Note: \*\*\* p < 0.01 \*\* p < 0.05 \* p < 0.10

Source: Own Elaboration



To choose the model with the best estimate, we perform the Hausman specification test:

### 3.4.2 Specification Test

The Hausman test allows a choice to be made between the fixed effect model and the random effect model. The Hausman test is based on the following assumptions: H0: Presence of random effects and H1: Presence of fixed effects.

Table 10. Hausman test

	Chi-Sq. Statistics	Chi-Sq.d.f.	Prob.
ROE	13.212478	4	0.0103
ROI	21.498764	4	0.0003
EPS	8.708091	4	0.0688

Source: Own Elaboration

For ROE and ROI, the P is less than 0.05, we reject the null hypothesis to select the random Effects model. For EPS, P = 0.0688 is close to 0.05, we accept the hypothesis 1 to select the Fixed Effects model.

### 3.5 Discussion

For the first ratio (ROE), the model is significant at the 1% threshold with F = 11,493. Its fit quality is very good with R<sup>2</sup> = 82%. The explanatory variable is negative and not significant (p = 0.28) indicating the absence of a relationship between CSP and ROE.

The two moderating variables, size, and the financial autonomy ratio, positively contribute to performance, while the debt ratio influences it negatively. For the second indicator (ROI), the model is not statistically significant. No reliable interpretation can be made based on these estimates.

For the last ratio (EPS), the model is significant at the 1% threshold with F = 12,863. The fit of the model is very good. The explanatory variable is negative and statistically significant, which notes the existence of an absence of relation between CSP and EPS.

Among the control variables, only the size of the company and the financial autonomy ratio contribute positively to performance.

Empirical analysis shows an absence of causal link between these two performances. The regression models formulated highlight the absence of a significant difference in FP between the companies classified Top P and NTP.

These results are corroborated by the conclusions of the work carried out by Bouslah et al. (2006), who point out that the interaction model between these two performances may not be discovered from the available statistical data. Likewise, for Nelling and Webb (2009), there is no evidence of this relationship and if socially responsible activities bring benefits to the enterprise, they seem to manifest themselves in forms independent of FP.

## 4. Conclusion

The objective of this study is to empirically verify the potential link between CSP and FP in the Moroccan context. Neither the theoretical literature review nor the empirical results of the various research allow us to decide on the existence of this relationship. Faced with this observation, we hypothesized that there was no relationship between these two performances. Based on a conceptual model, we tested the research hypothesis on a sample of 32 Moroccan firms listed on the SEC from 2011 to 2017. For the three FP indicators (ROE, ROI, and EPS), the results obtained clearly show the absence of this causal link, which confirms the research hypothesis.

Our conclusions are different from the results of studies conducted in the Moroccan context, which maintain that this link is positive and / or negative. However, this study is not without limits; the first relates to the size of the sample, the second relates to the nature of this relationship which could be undisclosed from the available statistical data, and the last is that the measure of CSP adopted would risk masking this relationship.

In future research, it would be interesting to take into account other indicators of FP (such as Tobin's Q, MVA and MBV) and CSP, to integrate other control variables (such as the sector activity, research and development expenses, and the age of the business).

Finally, since the relationship between these two performances could be non-linear, we can deepen this article using econometric methods that can analyze the non-linear effect such as quantile regression and the regime-change model.

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